Number 1 3752 219/121.49 or 219/121.52 or 219/119 or 219/75 or 219/121.59 EPO; JPO 12:18 EPO; JPO 12:18 USPAT; 2004/03 EPO; JPO 12:13 USPAT; 2004/03 EPO; JPO 12:14 USPAT; 2004/03 EPO; JPO 12:38 EPO; JPO 12:38	2/17 2/17 2/17 2/17
219/75 or 219/121.59 2 745740 tip or shield adj cap or nozzle 3 4792 plasma adj3 torch 4 2240065 cooling next electrode 5 3043 (plasma adj3 torch) and (cooling next electrode) 6 106165 swirl\$ or turbulence or turbulent  EPO; JPO 12:18 2004/03 EPO; JPO 12:13 2004/03 EPO; JPO 12:13 2004/03 EPO; JPO 12:14 2004/03	2/17 2/17 2/17 2/17
A792   plasma adj3 torch   EPO; JPO   12:13   2004/03   EPO; JPO   12:13   2004/03   EPO; JPO   12:13   2004/03   EPO; JPO   12:13   EPO; JPO   12:14   EPO; JPO   12:14   EPO; JPO   I2:14   EPO; JPO	2/17 2/17 2/17 2/17
3   4792   plasma adj3 torch   USPAT;   2004/03   12:13	9/17 9/17 9/17
2240065 cooling next electrode USPAT; 2004/03 5 3043 (plasma adj3 torch) and (cooling next USPAT; 2004/03 electrode) EPO; JPO 12:13 6 106165 swirl\$ or turbulence or turbulent USPAT; 2004/03	9/17 9/17 9/17
4 2240065 cooling next electrode USPAT; 2004/03 5 3043 (plasma adj3 torch) and (cooling next EPO; JPO 12:13 electrode) EPO; JPO 12:14 106165 swirl\$ or turbulence or turbulent USPAT; 2004/03	3/17 3/17
5 3043 (plasma adj3 torch) and (cooling next electrode) EPO; JPO 12:13 2004/03 EPO; JPO 12:14 106165 swirl\$ or turbulence or turbulent USPAT; 2004/03	3/17 3/17
electrode) EPO; JPO 12:14 106165 swirl\$ or turbulence or turbulent USPAT; 2004/03	17
6 106165 swirl\$ or turbulence or turbulent USPAT; 2004/03	
	/17
7 463 ((plasma adj3 torch) and (cooling next USPAT; 2004/03	
electrode)) and (swirl\$ or turbulence or EPO; JPO 12:15	i
turbulent )	
8 925905 groove\$ or dimples or projections or USPAT; 2004/03 textured or texturing EPO; JPO 12:16	/17
9 438 ((plasma adj3 torch) and (cooling next USPAT; 2004/03	/17
electrode)) and (groove\$ or dimples or EPO; JPO 12:16	,
projections or textured or texturing)	
10 2495 cooling adj4 electrode USPAT; 2004/03	/17
EPO; JPO   12:16   11   41 (((plasma adj3 torch) and (cooling next   USPAT;   2004/03	/17
electrode)) and (groove\$ or dimples or EPO; JPO 12:17	, -,
projections or textured or texturing))	
and (cooling adj4 electrode)	1777
12 33 (219/121.49 or 219/121.52 or 219/119 or USPAT; 2004/03 219/75 or 219/121.59) and ((((plasma adj3 EPO; JPO 12:17	/17
torch) and (cooling next electrode)) and	
(groove\$ or dimples or projections or	1
textured or texturing)) and (cooling adj4	
electrode))	/17
39 (tip or shield adj cap or nozzle) and USPAT; 2004/03 ((((plasma adj3 torch) and (cooling next EPO; JPO 12:17	/1/
electrode)) and (groove\$ or dimples or	
projections or textured or texturing))	
and (cooling adj4 electrode))	
14 32 ((219/121.49 or 219/121.52 or 219/119 or USPAT; 2004/03 219/75 or 219/121.59) and ((((plasma adj3 EPO, JPO 12:17	/1/
torch) and (cooling next electrode)) and	
(groove\$ or dimples or projections or	
textured or texturing)) and (cooling adj4	
electrode))) and ((tip or shield adj cap or nozzle) and ((((plasma adj3 torch) and	
(cooling next electrode)) and (groove\$ or	
dimples or projections or textured or	
texturing)) and (cooling adj4	
electrode))) 15 1135 219/121.49 or 219/121.52 USPAT; 2004/03	1/17
1135 219/121.49 OF 219/121.52 USPAT; 2004/03 EPO; JPO 12:39	/ 1 /
16 255 (219/121.49 or 219/121.52 ) and (groove\$ USPAT; 2004/03	/17
or dimples or projections or textured or EPO; JPO 12:19	
texturing)	1/17
17 229 ((219/121.49 or 219/121.52 ) and (groove\$ USPAT; 2004/03 or dimples or projections or textured or EPO; JPO 12:19	11
texturing)) and (cooling next electrode)	
18 41 (cooling adj4 electrode) and USPAT; 2004/03	/17
(((219/121.49 or 219/121.52)) and EPO; JPO 12:19	
(groove\$ or dimples or projections or textured or texturing)) and (cooling next	
electrode))	
19 3952 enhance adj cooling or better adj cooling USPAT; 2004/03	/17
EPO; JPO 12:20	
20 14 ((swirl\$ or turbulence or turbulent) or USPAT; 2004/03 (groove\$ or dimples or projections or EPO; JPO 12:36	117
textured or texturing)) and (plasma adj3	
torch) and (enhance adj cooling or better	
adj cooling)	

.21	228	(knurling or knurled or grooved or	USPAT;	2004/03/17
		grooves or ribbed or ribs or dimples or	EPO; JPO	12:37
	1	projections) and (plasma adj3 torch) and		
	1	cooling		
22	211	gas and ((knurling or knurled or grooved	USPAT;	2004/03/17
		or grooves or ribbed or ribs or dimples	EPO; JPO	12:38
		or projections) and (plasma adj3 torch)		
		and cooling)		
23	79535	gas with cooling	USPAT;	2004/03/17
			EPO; JPO	12:38
24	95	(gas and ((knurling or knurled or	USPAT;	2004/03/17
		grooved or grooves or ribbed or ribs or	EPO; JPO	12:38
		dimples or projections) and (plasma adj3		
		torch) and cooling)) and (gas with		
25	246025	cooling)		0004/00/45
25	346935	swirl\$ or turbulence or turbulent or	USPAT;	2004/03/17
26	1 44	surface adj area	EPO; JPO	12:39
26	44	((gas and ((knurling or knurled or	USPAT;	2004/03/17
	1	grooved or grooves or ribbed or ribs or	EPO; JPO	12:39
		dimples or projections) and (plasma adj3 torch) and cooling)) and (gas with		
		cooling)) and (swirl\$ or turbulence or		
		turbulent or surface adj area )		
27	26		USPAT;	2004/03/17
		and ((knurling or knurled or grooved or	EPO; JPO	12:39
		grooves or ribbed or ribs or dimples or		12.03
		projections) and (plasma adj3 torch) and		
		cooling)) and (gas with cooling)) and		
		(swirl\$ or turbulence or turbulent or		
		surface adj area ))		

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